

REMARKS

Amendments to the claims

Applicant has cancelled the language “substantially smooth” from claims 1 and 2. This language was added in the Response that Applicant filed on May 20, 2004. Accordingly, the claims now read as they did prior to that Response. It is to be understood that Applicant is making these amendments solely to expedite allowance of this case. Applicant reserves the right to file a continuing application that is drawn to the cancelled subject matter and any other subject matter that was present in the application as filed.

The pending claims

As amended, claim 1 recites a microarray of polymeric biomaterials comprising *a base* with *a cytophobic surface* and a *plurality of discrete* dry polymeric biomaterial elements non-covalently bound to *the cytophobic surface* (*emphasis added*). In claim 2, the microarray comprises a plurality of discrete dry non-monolayer polymeric biomaterial elements bound to the cytophobic surface. Either way, each of the polymeric biomaterial elements includes a soluble synthetic polymer, and at least two of the polymeric biomaterial elements include different soluble synthetic polymers. The other pending claims depend from claims 1 and/or 2 and specify further limitations.

Rejections under 35 U.S.C. § 112

Each of the rejections that were made under 35 U.S.C. § 112 relate to the “substantially smooth” language that Applicant had previously added to claims 1 and 2. As noted, this language has been cancelled by the present Amendment. Accordingly these rejections are moot.

Rejection under 35 U.S.C. § 103

Claims 1-6, 8-11, 14-20, and 57 stand rejected under 35 U.S.C. § 103 as being obvious over Saltzman (Saltzman et al., *J. Biomed. Mat. Res.*, 1991, 25:741-759) in view of Kapur (U.S. Patent No. 6,548,263) and Schultz (U.S. Patent No. 5,985,356). Applicant respectfully disagrees and submits that the combined references do not teach or suggest the claimed invention.

In making this rejection, the Examiner relies primarily on the “culture chamber” that is described on pages 743-744 of Saltzman. Specifically, the Examiner states that this chamber includes “[...] *surfaces* in an array to which polymeric elements are non-covalently bound” (see last sentence of item 4 on page 5 of Final Office Action, *emphasis added*). Applicant is puzzled by this statement and its relevance to the pending claims.

Saltzman discloses glass coverslips that are each *uniformly* coated with a *single* polymer type (Table 1). The individual coverslips are coated with a given polymer by spin-coating (page 743). In certain experiments Saltzman fixes six coverslips onto a single customized polycarbonate “culture chamber” (page 744). The chamber is built from a polycarbonate sheet that has six circular holes (each 35 mm in diameter). The coated coverslips (45 x 50 mm) are mounted over the bottoms of the holes with heat-sterilized high vacuum grease, presumably with the polymer coated sides facing the holes (page 744). With this arrangement, the coated sides of the coverslips close off and form the “bottoms” of circular wells in the polycarbonate “culture chamber”.

Thus, in a first embodiment Saltzman teaches individual coverslips that are uniformly coated with a *single* polymer. In a second embodiment Saltzman teaches a culture chamber that includes multiple coverslips (each coated with a single polymer) arrayed on a polycarbonate sheet. Neither one of these embodiments corresponds to the claimed invention. The first embodiment fails at least to include a *plurality* of discrete polymeric biomaterial elements. The second embodiment fails at least to include a *single base* with a plurality of discrete polymeric biomaterial elements arrayed thereon. By stating that Saltzman teaches “*surfaces* in an array” the Examiner clearly recognizes the fundamental differences between the claimed invention and Saltzman’s invention.

For these reasons, Applicant respectfully submits that Saltzman does not teach the claimed invention. Further, there is nothing in Saltzman that teaches or suggests modifying the “culture chamber” arrangement in order to obtain the claimed invention. In fact, by teaching the use of separate spin-coated glass coverslips that are individually mounted on a polycarbonate sheet, Saltzman explicitly teaches *away* from a device that includes an array of discrete polymeric elements arranged on a single continuous surface.

Applicant further submits that the secondary references of Kapur and Schultz do not remedy the deficiencies of Saltzman. In particular, the Examiner fails to explain *how* the teachings of Saltzman can be combined with the teachings of Kapur and/or Schultz to *produce the claimed invention*. For example, the Examiner states that Kapur and Schultz teach methods for preparing arrays and that it would have been obvious for a skilled person to "prepare the synthetic polymer surfaces of Saltzman in an array format as demonstrated by Kapur and Schultz" (see item 9 of Office Action mailed November 21, 2003). Crucially, however, the Examiner does not explain *how* a skilled person would "prepare the synthetic polymer surfaces of Saltzman in an array format". Saltzman teaches a spin-coating method that produces uniformly coated coverslips. Kapur and Schultz teach arrays but these are prepared using specific chemicals and methods that appear to be incompatible with the synthetic polymers of Saltzman. Applicant does not see how a skilled person would combine these teachings let alone combine them to produce the claimed invention. Clarification is respectfully requested.

Conclusion

Based on the arguments presented above, it is submitted that the pending claims, as amended herein, are allowable. Applicant would like to thank the Examiner for his thoughtful comments and careful consideration of the case. If a telephone conversation would help expedite prosecution of this case, the Examiner is invited to contact the undersigned at (617) 248-4793. Additionally, please charge any fees that may be required, or credit any overpayment, to our Deposit Account No. 03-1721.

Respectfully submitted,


12/2/04
Charles E. Lyon, D.Phil.
Agent for Applicant
Limited Recognition Under 37 C.F.R. § 11.9(b)

PATENT DEPARTMENT
CHOATE, HALL & STEWART
53 State Street
Exchange Place
Boston, MA 02109
Phone: (617) 248-5000
Fax: (617) 248-4000